Witness: Raymond A. Letourneau, Jr. February 27, 2009

Staff 1-11: Please describe the training in-house employees receive concerning outages and restoration.

Response:

In house training for Unitil employees consists of the following:

<u>Line personnel</u> – Unitil's Apprentice through First Class lineworker training program consists of many aspects of line work including restoration safety, damage assessment, troubleshooting, and switching and tagging procedures. Additionally, on the job training includes emergency outage experiences with other line personnel. Lineworkers must pass written and practical tests prior to promotion to each classification of line work, demonstrating proficiency in emergency response procedures and trouble shooting activities.

<u>Engineering</u> – New or lesser experienced engineers are provided training on system configuration, system load flow analysis, distribution circuit analysis, and writing switching orders before they are required to assist during an outage event. These skills are used to identify if the system can be reconfigured to sectionalize the affected area and restore customers from a different source. During an outage event, new or lesser experienced engineers are teamed up with a more experienced engineer to learn how to complete damage assessment, organize outage events, and assist in the office with system switching.

<u>Customer Service</u> – Outages and restoration is covered in their 6 to 8 week training program that includes both classroom and one-on-one training. The customer service representatives are trained to take outage calls, create work orders and how to manage the outage reporting system (Porche). They are trained on the various issues that can occur out in the field so that they can determine the correct work order to be issued. They are also trained on the proper paging procedures so they are able to page out the appropriate personnel should an outage occur outside regular hours.

<u>Metering</u> – The primary function of the Metering personnel during storm situations is to guide contract crews, and therefore their familiarity with the service area is a necessary skill. Additionally, they are trained identify overhead distribution equipment in order to provide damage assessment and distinguish the utility responsible for repairs. Metering personnel are also trained in

Witness: Raymond A. Letourneau, Jr. February 27, 2009

identification and safety protocols used in investigation and assessment of "wire down" calls.

Witness: Raymond A. Letourneau, Jr. February 27, 2009

Staff 1-12: Please describe training requirements for contract employees and those used in mutual aid agreements (if different than those for inhouse); include frequency, duration, location, written records and names of trainers.

Response:

Unitil requires contractors that are normally engaged in operations and emergency activities to provide documentation of all training conducted for their employees. At a minimum, the contractor must demonstrate their employees are fully trained to perform the work we are hiring them for. In addition, they must provide documentation that their employees are in compliance with OSHA standard 1910.269. Please see Staff 1-12 Attachment 1 for an example of such documentation.

For those contractors that are not normally engaged in operations and emergency activities on the Unitil system, on-site safety briefings are provided by a Supervisor or Manager prior to engaging in restoration activities.

I.C. Reed & Sons, Inc.

Serving Utilities & Industry Since 1953

01/03/08

Unitil Energy Systems, Inc. - S.D.O.C. Attn: Scott Wade 114 Drinkwater Road Kensington, NH 03833-5602

ATTN: Scott Wade

SUBJECT: Safety Training

Dear Scott,

It is the intent of I C. Reed & Sons to provide a safe working environment and to provide training, equipment and tools to meet that goal. It is also our goal to comply with all Federal, State and Local laws. To that end, we require and provide annual training to all employees involved in construction and maintenance. Included in our annual training program are:

First Aid, CPR, Lockout Tagout, Confined Space, Hazardous Material, Drug & Alcohol, Motor Vehicle Safety, DOT Compliance, Poletop & Bucket Rescue, Proper Use of an Aerial Lift, Traffic Safety, Fire Resistant Clothing, Proper Use of a Digger Derrick - Safe Operation (including poles & lifting), Care & Use of Personal Protective equipment, Off-Road Equipment Operator, Personal Protective Grounds, Qualified Personnel, Vehicle / Brake Inspection, Ladders, Lifting, Live Line Clearances, Ground to Ground Rubber Glove Rule, Rubber Gloving Procedures, Open-Tag-Test-Ground, Accident Investigation, Aerial Lift Daily Inspections, Aerial Lift Safe Operation & Daily Inspections, Posi-Plus, Pitman, Holan, Lift-All, Basic Climbing, Bucket (Elbow lifting characteristics), Bucket Truck Safety & Operation, Care, Use & Inspection of Safety Equipment, Chain Saw Safety & Use, Chemical Hazard Communication, Dead Line Procedures, Defensive Driving Techniques, Emergency Response, Full Body Harnesses, HAZWOPER (HAZardous Waste OPerations and Emergengy Response), Insulate & Isolate Rubber Glove Techniques, Rubber Goods, Section 6 S.M., Single Point Grounding, Subject Discussed: Federal & State Regulations regarding Registrations & Inspections, Substation Awareness Training, Tagging & Switching, URD - Dead-Front, Live-Front, O.P.s, Vehicle Operation, Chocks, Cones, Signs, Lighting, Etc.

This is not an all-inclusive list but it includes the topics covered in the last twelve months. All new employees must obtain a CDL-A license and pass the appropriate physical and drug test. All new employees must also have as a minimum, First Aid and CPR training. The other topics are covered on a rotating basis throughout the year

If you have any further questions please feel free to contact me.

Sincerely,

Carl B. Reed

Vice President & Operations Director

(603) 895-2731

Fax: (603) 895-4831 Email: ICReed Inc@aol.com

P.O. Box 968, Raymond, NH 03077

Witness: Raymond A. Letourneau, Jr. February 27, 2009

Staff 1-13: Please include a break-out of field personnel as well as support personnel, with responsibilities and duties for each in an outage and restoration scenario.

Response:

Provided below are primary responsibilities for functions at the local EOC. Field Personnel are defined as those functions normally performed in the field. Support Personnel are defined as functions that directly support Field Personnel.

Field Personnel:

Line Crews: Assess, repair, and replace electric distribution facilities in

order to restore service to customers. This may also include switching and tagging and pole setting.

Field Supervisors: Coordinate field activities of line crews to efficiently and

effectively restore service.

Tree Crews: Clear/cut trees and tree limbs from electric facilities. In

some cases, opens roadways.

Crew Guides: Provide outside line crews specific direction to trouble

locations. Provide radio communications to outside crew.

Performs patrolling and assessment.

Damage Assessors: Performs damage assessment for EOC and line crews

when assigned. Also will be assigned to wire down calls to

assess and/or release emergency officials.

Support Personnel:

Restoration Coord. Overall management for restoration activities including

prioritization of work assignments, switching, communications with emergency officials and

management.

Witness: Raymond A. Letourneau, Jr. February 27, 2009

Trouble Sorter: Review, analyze, and sort trouble tickets to identify most

probable device and assist with prioritizing restoration

activities.

Logistics Coord. Ensure personnel have food, lodging, and any other

accommodations as required.

Fleet and Facilities: Ensure facilities are secure. Ensures back-up power

systems are functioning. Schedules repairs of vehicles.

Coordinates fueling of vehicles. Ensures radio

communications are functioning properly. Ensures plowing

of facilities.

Engineering: Provides various engineering services including switching

orders, load reviews, updating customer counts, monitoring

SCADA. Also assist Trouble Sorter.

Inventory Coord. Ensures material is stocked and replenished. Pre-stocks

material for outside crews. Coordinates material delivery

to field crews.

Radio attendant: Provides primary point of contact between field crews and

EOC restoration coordinator. Responsible for emergency

communication on dedicated lines with municipal

emergency officials.

Administrative Staff: Provides administrative support including timesheet

processing, record keeping, outbound calling, petty cash,

and other general assignments.

Staff 1-14: Please provide your company's definition of and job description for the following:

- a. line crew;
- b. tree trimming crew;
- c. bucket crew:
- d. digger crew.

Response:

Unitil does not differentiate between a line crew, a bucket crew, or a digger crew for the purpose of definition. Our line personnel are trained and qualified to work on either a bucket truck (aerial lift device) or a digger truck (auger for pole setting).

Line Crew: Two qualified line personnel consisting of two first class lineworkers, or one first class and one second class lineworker, a bucket truck or digger truck.

Tree Crew: A two person crew, a 55 foot to 70 foot bucket truck, a chipper and auxiliary hand and power equipment.

Please see Staff 1-14 Attachment 1 which provides the job description for each classification in the lineworker progression: Apprentice, Third Class, Second Class, and First Class.

Position Title: Lineworker First Class	Reports to: Line Supervisor		
Company:	Department: Electric Systems		
Incumbent:	Date:		

Position Purpose:

Perform transmission and distribution line construction, operation and maintenance. Perform rubber gloving at all voltages up to and including 34.5 kV. This position will normally be assigned to work under the general supervision of a Lead Lineworker. The Lineworker First Class may be assigned job responsibilities by the Line Supervisor or their designee and perform these assigned jobs independently or with other Lineworkers.

Principal Accountabilities:

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% of Time	End Results			
45	Perform duties described for Lineworker Second, Third Class, and Apprentice.			
20	Teach methods and procedures involved in all phases of linework and			
	substations to those assigned who are in Lineworker training positions.			
20	Investigate electric service trouble calls and make necessary corrective repairs			
	to restore proper electric service.			
10	Maintain time slips and inventory records for which the overall responsibility of			
	the job and personnel required has been assigned.			
5	Perform other duties as assigned by the Lead Lineworker, Line Supervisor, and			
	Management.			

Requirements:

Ве	avail	able a	and	respo	nd to t	rouble	calls and	emergencies.	
							_		

Reside within 18 miles radius of the operating center.

Provide line department standby on a rotating schedule basis.

Possess and maintain a valid motor vehicle operator's license to operate commercial registered vehicles, based on requirements of the State of New Hampshire and/or the State where employee resides.

Qualifications:

This is a position of a fully qualified Lineworker who has developed the understanding of and is able to proficiently perform all phases of transmission and distribution linework and substation work required by the Company in a manner which conforms to the Company's Construction Standards and Safety Procedures.

High School graduate or equivalent.

Minimum of two years experience as a Lineworker Second Class.

Fully qualified Lineworker, able to perform all phases of line work required of a Lineworker Apprentice, Third, and Second Class positions.

Employees classified as Utility Lineworker, First, Second, and Third Class; Lead Lineworker; Lineworker, First, Second, and Third Class; Lead Line Technician; and Line Technician I, II and III; prior to June 25, 1995 shall not be required to perform rubber gloving linework on lines energized at voltages above 15kV. The employees identified above may volunteer to perform rubber-gloving linework at all voltage levels.

Position Title: Lineworker Second Class	Reports to: Line Supervisor/Lead Lineworker		
Company:	Department: Operations		
Incumbent:	Date:		

Position Purpose:

This job category is an on-the-job training period to build skills, knowledge, and experience for advancement to Lineworker First Class. This is a non-supervisory position which will be consistent in carrying out the job concept set by the Lead Lineworker, Line Supervisor, Company, and Management Policy. Advancement, while normally made in 2 years, shall be determined by the employee's ability to understand and proficiently perform lineworker's work methods. Prior to advancement, the employee shall be required to successfully complete a training program by passing written tests and the ability to demonstrate proper working techniques and practices. Work performed will be under supervised training directed by a Lineworker First Class, Lead Lineworker, or Supervisor.

Principal Accountabilities:

% of Time	End Results
	Perform duties described for Lineworker Third Class.
	Installation of underground and overhead services, secondaries and primary
	feeder systems.
	Single and three phase rubber gloving and hot sticking work practices and
	methods on voltages up to and including 34.5kV. Proper methods of pole
	framing, mounting crossarms and equipment with standard clearance practices
	followed.
	Splicing of live primary and secondary conductors using proper safety
	methods.
	• Installation of line protective equipment; sectionalizers, capacitors, switches,
	reclosers, regulators, and transformers.
	Tree trimming and proper clearances of energized conductors at various
	voltages.
	Installation and construction of substations.
	• Splicing and installing underground cables and associated terminations.
	Working knowledge of basic electricity (Lineworkers Handbook).
	Working knowledge of transmission and distribution systems.
	• Working knowledge in use of voltmeters, ammeters, and watt hour meters.
	Working knowledge of equipment testing procedures.
	Working knowledge of Unitil Construction Standards.
	Perform other duties as assigned by the Lead Lineworker and/or Line
	Supervisor.

С	hallenges:				

Decision Making Authority:		

Qualifications:

- Have a minimum of one year experience as a Lineworker Third Class.
- Maintain proficiency in and requirements of the Lineworker Third Class Position Description.
- High school diploma or certified equivalent.

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REQUIREMENTS:

- Possess and maintain a valid motor vehicle operator's license to operate commercial registered vehicles, based on requirements of the State of New Hampshire and/or the State where employee resides.
- Be available and respond to trouble calls and emergencies.
- Reside within an 18 mile radius of the operating center.

Employees classified as Utility Lineworker, First, Second, and Third Class; Lead Lineworker: Lineworker, First, Second, and Third Class; Lead Line Technician; and Line Technician I, II, and III; prior to June 25, 1995 shall not be required to perform rubber gloving linework on lines energized at 15kV or above. The employees identified above may volunteer to perform rubber gloving linework at all voltage levels.

Position Title: Lineworker Third Class	Reports to: Line Supervisor/Lead Lineworker		
Company:	Department: Operations		
Incumbent:	Date:		

Position Purpose:

This job category is an on-the-job training period to build skills, knowledge, and experience for advancement to Lineworker Second Class. This is a non-supervisory position which will be consistent in carrying out the job concept set by the Lead Lineworker, Line Supervisor, Company, and Management Policy. Advancement, while normally made in one year, shall be determined by the employee's ability to proficiently perform and understand lineworker's work methods. Prior to advancement, the employee shall be required to successfully complete a training program by passing written tests and the ability to demonstrate proper working techniques and practices. Work performed will be under supervised training directed by a Lineworker First Class, Lead Lineworker, or Supervisor.

SPECIFIC TASKS: (Normal but not limited to)

- The application and use of a lineworker's tools and equipment in a safe manner.
- To properly ascend and descend a pole by means of climbing.
- Proper handling and use of aerial lift bucket and digger trucks.
- Proper knowledge and handling of rope, knots, splices, and linework gear and equipment.
- Proper care and use of rubber protective equipment.
- Secondary distribution line work within the range of 600 volts and under to ground.
- Installation of single phase voltage lines, 2.4 kV to ground, secondaries, services, and street lights.
- Single phase transformer connections and parallel banking.
- Installation of guying and pole setting.
- Proficient in pole top and bucket resuscitation and rescue.
- To study basic knowledge of electricity (Lineworkers Handbook).
- Become familiar with transmission and distribution systems.
- Become familiar with the use of voltmeters, ammeters, and watt hour meters.
- Become familiar with equipment testing procedures.
- Become familiar with Company Policies/Procedures and Safety Manual.
- Perform other duties as assigned by the Lead Lineworker and/or Line Supervisor.

Principal Accountabilities:

% of Time	End Results				
	QUALIFICATIONS:				
	A high school diploma or certified equivalent.				
	Maintain proficiency in and requirements of the Apprentice Lineworker				
	Position Description.				
	Have a minimum one year experience as an Apprentice Lineworker.				
	REQUIREMENTS:				
	Possess and maintain a valid motor vehicle operator's license to operate				
	commercial registered vehicles, based on requirements of the State of New				
	Hampshire and/or the State where employee resides.				

•	Be available and respond to trouble calls and emergencies.
•	Reside within an 18 mile radius of the operating center.

Position Title: Apprentice Line Worker	Reports to: Line Supervisor/Lead		
	Lineworker		
Company:	Department: Operations		
	Hourly Rate:	Roster	

Position Purpose:

This is a training position preparing the employee to progress within the Electric Operations Department to Line Worker Third Class. Advancement, while normally made within one year, will be determined by the individual employee's ability to understand and be proficient in all phases of linework expected of an apprentice lineworker. This position involves moderate to heavy laboring work in all kinds of weather, principally outdoors.

Principal Accountabilities:

End Results

Obtain working knowledge of Electric Operations & Maintenance Procedures, Company Construction Standards, Policy and Procedures, and Safety Rules. Perform proper handling and use of aerial lift bucket/digger trucks. Have proper knowledge of and handle line tools, rubber protective equipment, ropes, knots, splices, and line work gear in a safe manner.

Learn proper procedure for completing required paperwork to provide records of work completed such as operation, maintenance, motor vehicle records, accurate time records, and other required records.

Properly ascend and descend a pole and take care of all climbing equipment. Be proficient in pole top resuscitation and rescue.

Perform secondary distribution line work up to 600 volts phase to phase.

Assist in underground/overhead construction and maintenance and all work in connection with the construction of high voltage de-energized, including sagging conductors and connections of transformers, meters, regulators and other similar electrical equipment.

Participate and successfully complete an Apprentice Lineworker Training Program.

Participate in all safety training programs and exercises.

Qualifications:

- High School diploma or equivalent;
- Obtain and maintain a valid Class A Commercial Driver's license based on the requirements of the State where the employee resides before advancing to Third Class.
- Reside within an 18 mile radius of the operating center.
- Be available and respond to trouble calls and emergencies.

Witness: Raymond A. Letourneau, Jr. February 27, 2009

Staff 1-15: Please provide the number of crews employed full-time by your company for each of the following years: 2004, 2005, 2006, 2007 and 2008, differentiating numbers for internal and contract crews for each of the following:

- a) line crews:
- b) tree trimming crews;
- c) bucket crews;
- d) digger crews.

Response:

As described in 1-14, Unitil does not normally differentiate between Line crews, Bucket crews or Digger crews. Our line crews are trained and qualified to be either a bucket crew or a digger crew.

Unitil Line Crews

Year	UES Seacoast	UES Capital	Total
2004	7	5.5	12.5
2005	7	5.5	12.5
2006	7	5.5	12.5
2007	6.5	5.5	12.0
2008	7	4.5	11.5

Contract Tree Crews (average)

Year	UES Seacoast	UES Capital	Total
2004	3	2	5
2005	3	2	5
2006	3	2	5
2007	4	3	7
2008	4	3	7

<u>NOTE:</u> The average is based on two tree crews performing scheduled maintenance vegetation control activities at all times during the course of the year and on occasion having up to an additional four (4) to six (6) tree crews on

Witness: Raymond A. Letourneau, Jr. February 27, 2009

Unitil's system performing vegetation control associated with line construction activities.

Contract Line Crews (average)

Year	UES Seacoast	UES Capital	Total
2004	6	1	7
2005	6	1	7
2006	7	1	8
2007	7	2	9
2008	7	2	9

<u>NOTE:</u> The above Contractor Line Crew quantities are an estimate only and are based on an average throughout the course of the year. Contractor line crews are utilized on a cyclical basis based on customer and company driven work.

Witness: Raymond A. Letourneau, Jr. February 27, 2009

Staff 1-16: Please provide a general description of the obligation of contract crews for storm restoration.

Response:

A contractor hired on Unitil's system guarantees Unitil the right of first refusal for their services in the event another utility is requesting their assistance for storm or other emergency purposes.

Witness: Raymond A. Letourneau, Jr. February 27, 2009

Staff 1-17: Please provide any restrictions or enhancements from labor contracts that are included in restoration planning efforts.

Response:

There are no restoration planning restrictions between Unitil Energy Systems and IBEW Local 1837.

Below are enhancements from the current collective bargaining agreement:

Pay When Away From Home

When working outside the regular division service area and other than for a Unitil Company, employees shall receive \$1.00 per hour above their regular hourly rate, or the prevailing rate for the area, whichever is higher.

The \$1.00 hourly premium shall be added to the regular straight-time rate of pay for determining overtime rates of pay, but for no other purpose. This premium shall not apply when attending a Company sponsored training course.

Anticipated Storm Pay

When an employee is released from work during normal working hours in order to establish a shift and have employees readily available for an anticipated storm, the employee will be paid a storm rate equal to their normal straight time rate during those hours outside of the normally scheduled work day provided other crews are engaged in restoration activities. The storm rate will apply on the first day of the storm only. Released employees are expected to be readily available until the Company notifies them that they no longer are required to remain available. It shall be the sole discretion of the Company to determine when the storm rate has been suspended. The Company will notify employees on the storm rate as soon as practicable that the storm has been suspended and they are no longer required to remain available. If such notification is greater than thirty (3) minutes past the storm rate termination time, the employee will be paid for all time up to notification.

Witness: Raymond A. Letourneau, Jr. February 27, 2009

Staff 1-18: Please describe use of electrician crews, either in-house or external, in expediting restoration times. If electricians were used, please state how many were used and on what dates, the number of meter posts restored, weatherheads reinstalled, or service drops they assisted with, and any other pertinent metrics including estimated hours/expenses incurred and estimated hours saved in utility crew time.

Response:

Electricians are not utilized for restoration activities.

Witness: Raymond A. Letourneau, Jr. February 27, 2009

Staff 1-19: Please provide the number of line crews, tree trimming crews, digger crews and bucket crews your company had available on December 9, December 10, December 11 and December 12. Please provide them both in total for your company and by division and area work center.

Response:

Unitil does not differentiate between line crews or bucket crews (See Staff 1-14), therefore both are reported as line crews in the table below.

UES Capital				
	12/9	12/10	12/11	12/12
Line Crews	6	6	6	6
Tree Crews	2	2	2	2
Digger Trucks ¹	2	2	3	3
UES Seacoast				
Line Crews	13	13	13	10
Tree Crews	2	2	2	2
Digger Trucks ¹	2	2	2	2
Unitil Total				
Line Crews	19	19	19	16
Tree Crews	4	4	4	4
Digger Trucks ¹	4	4	4	4

¹Digger Trucks are available at the location and staffed by line crew personnel when required.

Witness: Raymond A. Letourneau, Jr. February 27, 2009

Staff 1-20: Please provide the timeframe in which your company sought additional crews for the December 2008 ice storm. Please provide actual times and dates when you contacted outside crews, the names of the companies whose crews were contacted, and the number and types of crews requested. Please also provide a description of the internal process and criteria by which those companies were chosen.

Response:

Please see the attached table which summarizes the information requested.

The company maintains a list of external contractors that work on the Unitil system. In addition, Unitil maintains contact information for other contractors within the region who may not have worked on the Unitil system. Unitil is also a member of the New England Mutual Aid Group (NEMAG), which maintains contacts with other member utilities.

For the 2008 Ice Storm, Unitil first utilized internal contractors already on the system, followed by other regional contractors who were not on the system. The remaining crews came from NEMAG, or contacts provided by NEMAG members.

		Company or	Number	
Date	Time	Organization	Requested	Type Requested
Dec. 11	2300	Hi Volt Electric	All available	Line crews
	2300	IC Reed	All available	Line crews
Dec. 12	0600	NEMAG ¹	30	Line crews
	0600	Asplundh Tree	All available	Tree crews
	1200	NEMAG/MAMAG ²	40	Line crews
	2000	J.C. Reed, Inc.	All Available	Line crews
Dec. 13	1400	NEMAG	All available	Line crews
Dec. 14	0800	Service Electric	All available	Line Crews
Dec. 16	2000	National Grid	All available	Line crews
Dec. 17	1700	New Brunswick Power	All available	Line Crews
Dec. 19	1500	National Grid	40	Line Crews
Dec. 20	2000	NH Electric Cooperative	2-3	Line crews

¹ New England Mutual Aid Group is comprised of the following utilities: Bangor Hydro Electric, Central Maine Power, Central Vermont Public Service, Green Mountain Power, Hydro One Inc., Hydro-Quebec, New Brunswick Power, Northeast Utilities (PSHH, CL&P, WMECO), Nova Scotia Power, NStar, South Norwalk Electric & Water, United Illuminating, and Unitil.

² Mid-Atlantic Mutual Aid Group is comprised of the following Utilities: AEP, Allegheny Power, Baltimore Gas & Electric, Duquesne Power, Dominion, Duke Power, First Energy, Philadelphia Electric, Pittsburg Power & Light, Public Service Electric & Gas, UGI Utilites.